June 24, 1930. F. ARMBRUST 1,766,477

FASTENING DEVICE FOR WATCH BRACELETS

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Fig. 1.

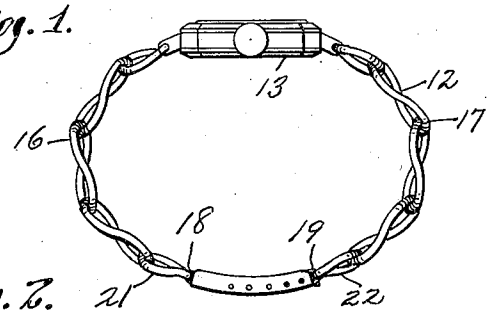


Fig. 2.

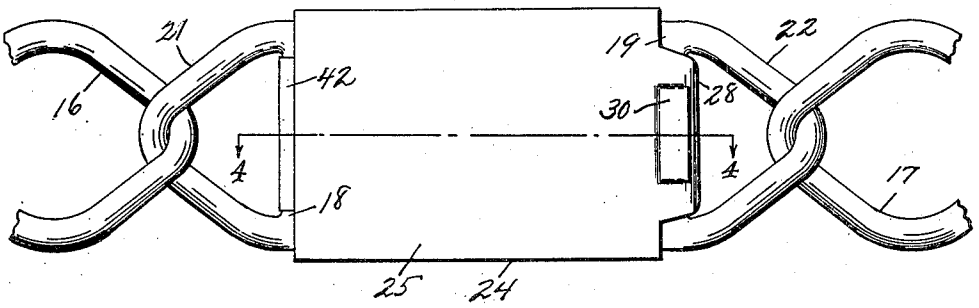
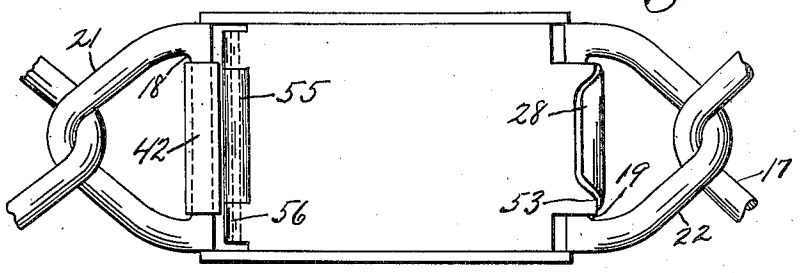


Fig. 3.



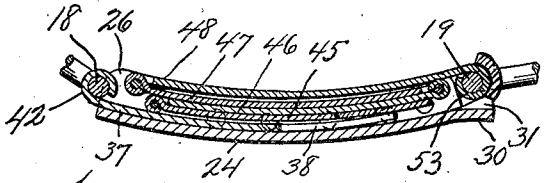


Fig. 4.

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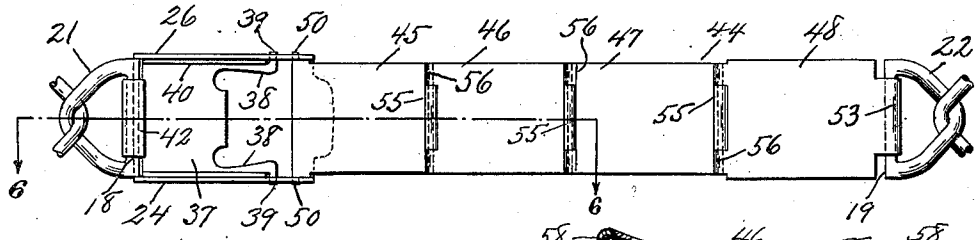
Fig. 5.



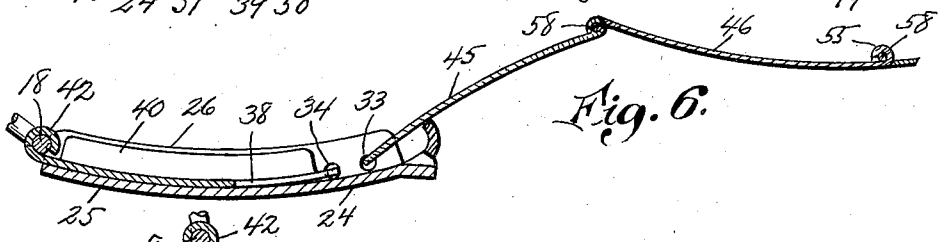


Fig. 6.

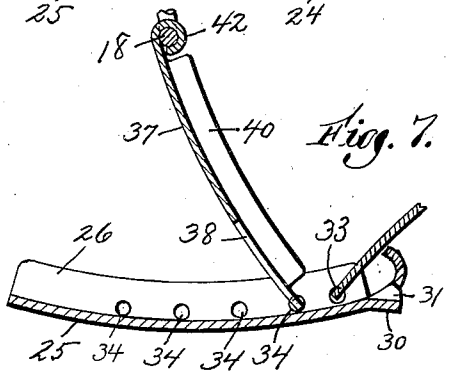


Fig. 7.

Fig. 8.

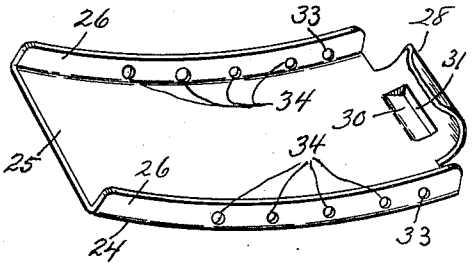


Fig. 9.

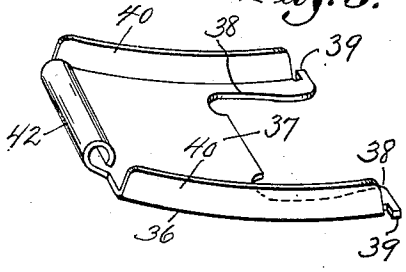
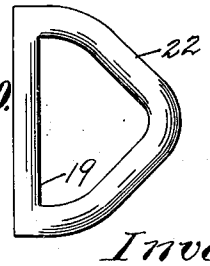


Fig. 10.



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Patented June 24, 1930 1,766,477

UNITED STATES PATENT OFFICE

FERDINAND ARMBRUST, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO ARMBRUST CHAIN COMPANY, OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND

FASTENING DEVICE FOR WATCH BRACELETS

Application filed November 4, 1929. Serial No. 404,584.

My invention relates to that type of fastening devices for watch straps or bracelets wherein the fastener normally houses the folded extension member attached to one strap section end, and cooperates with an element upon the other section end to finally adjust the length of the band to the wrist.

The essential objects of my invention are to facilitate the operation and improve the construction of the final adjusting means; to afford a facile and effective means for clamping the folded extension member into engagement with the fastener; and to attain these ends in a simple and compact structure.

To the above ends essentially my invention consists in such parts and in such combinations of parts as fall within the scope of the appended claims.

In the accompanying drawings which form a part of this specification,

Figure 1 is a top plan view of a watch strap or bracelet in which my fastener is incorporated,

Figures 2 and 3 are a front and rear elevation of the same respectively,

Figure 4, a section of the same on line 4—4 of Figure 2,

Figure 5, a rear elevation of the fastener in distended position,

Figure 6, a section of the same on line 6—6 of Figure 5,

Figure 7, a fragmentary section of the same with the adjusting member elevated,

Figures 8 and 9, detail views of the keeper and adjusting member respectively, and

Figure 10, a detail view of an end link.

Like reference characters indicate like parts throughout the views.

Herein the strap 12 includes a watch 13 attached to the link strap sections 16 and 17 terminating in posts or cross bars 18 and 19 respectively, which in this instance form the bar portions of the terminal semi-links 21 and 22. The chain form of strap is not exclusive.

My fastening device consists of a keeper or clasp 24 comprising an arcuate front plate 25 with parallel rearwardly directed side walls 26. Integral with one end of the plate is a resilient rearwardly directed curved lug or broad hook 28, transversely of whose base the material is cut and elevated to form a nail catch 30 above an opening 31. Near the ends of the side walls 26 adjacent the hook are a pair of oppositely disposed holes 33, and along intermediate portions of the walls are pairs of oppositely disposed perforations 34, all as shown in Figure 8.

An adjusting member 36, as shown in Figure 9, comprises a curved plate 37 integral with one of whose ends are longitudinally disposed spaced resilient arms 38, transversely compressible, and having upon their free ends laterally directed fingers 39 registerable in any preferred pair of perforations 34. Upon the sides of the plate 37 and arms are rearwardly directed resilient flanges 40 adapted to frictionally engage the side walls 26 of the keeper, against whose front plate the plate 37 normally abuts. Integral with the end of the latter opposite the arms is an attaching sleeve 42 in which pivots the post 18 of the strap section 16.

The extension member 44 comprises a plurality, in this instance four, longitudinally curved substantially oblong leaves or plates 45, 46, 47 and 48. The innermost leaf 45 is provided at its inner end with trunnions 50 which register in the holes 33. The outermost leaf 48 has upon its outer end an attaching sleeve 53 which pivotally embraces the post 19 of the strap section 17. The leaves 45, 46, and 47 have upon their outer ends hinge sleeves 55 cooperating with hinge sleeves 56 upon the inner ends of leaves 46, 47, and 48 to receive pintles 58 whereby are formed three hinge connections to permit folding of the leaves within the keeper. In folded position, as shown in Figure 4, the innermost plate 45 abuts against the plate 37 of the adjusting member, and the exposed face of the outermost leaf 48, between the side walls 26, is flush with the rear edges of the latter.

When the fastener is in closed or normal position upon the wearer's wrist the parts

are positioned as described in connection with Figure 4, in which figure it will appear that the flexible hook 28 has, by compression of the parts, been snapped over the sleeve 53. The pressure of the hook thereon and upon the enclosed post 19 is so intense as to rigidly lock the leaf 48 and the other leaves superposed thereby within the keeper or clasp 24. This locking means avoids the structural weakening, uncertainty of operation, and the expense, involved in the slot and detent means for fastening the leaves heretofore attempted. To release the fastener the wearer presses outwardly with his thumb nail under the nail catch 30 until the hook 28 yieldingly escapes from the sleeve 53, thus releasing the folded units of the extension member 44 to expand into extended position whereby the strap 12 may pass over the wearer's hand.

If it is desired to adjust or change the length of the strap bracelet 12 the adjusting member 36 is manually elevated, as shown in Figure 7, and the arms 38 compressed by the thumb and finger to detach the fingers 39 from one pair of perforations 34, and insert them in another pair by releasing the arms. The member 36 is now pressed back into engagement with the plate where it is normally held by the engagement of its yielding or resilient flanges 40 with the side walls 26 of the keeper.

It will be observed that the adjusting member 36 is so constructed and disposed relatively to the keeper 24 and the folded extension member 44 as to occupy a minimum of space when the parts are in normal or closed position, thus contributing to the compactness of the fastener. The member 36 is free from the derangements, loss of parts, and expense incident to the employment of adjusting means composed of spring pressed pins carried in tubular parts; and is not subject to the awkwardness of manipulation and accidental escape of posts carrying cam shaped heads upon their ends registerable in eccentric openings for this purpose.

I claim:—

1. In a device of the type specified, a keeper including a front plate and lateral walls provided with pairs of opposed perforations, an adjusting member including a plate abutting against the front plate between the walls, resilient arms integral with one end of the adjusting plate, and lateral fingers upon the arms pivotally registering in one of the pairs of the opposed perforations, an extension member comprising a plurality of hingedly connected leaves folded within the keeper against the second plate, one of said leaves being pivotally attached to the lateral walls, and means for maintaining the leaves in folded position.

2. In a device of the type specified, a keeper including a front plate and lateral walls provided with pairs of opposed perforations, a tiltable adjusting member comprising a plate normally abutting against the front plate, compressible arms fixed upon one end of the second plate, lateral fingers upon the arms pivotally engaging the walls in one of the pairs of the opposed perforations, and resilient lateral flanges upon the second plate frictionally engaging the lateral walls, an attaching sleeve upon the second plate opposite the arms, an extension comprising a plurality of hingedly connected leaves folded within the keeper and overlying the second plate, the innermost of said leaves being pivotally attached to the lateral walls, an attaching sleeve upon the outermost of said leaves, and means for maintaining the leaves in folded position.

3. In a device of the type specified, a keeper including a front plate and lateral walls provided with pairs of opposed perforations, an adjusting member in the keeper engagable with the walls in one of the pairs of the opposed perforations, an extension member comprising a plurality of hingedly connected leaves superposed upon the plate and the adjusting member between the walls, the innermost of said leaves being pivotally attached to the walls, an attaching sleeve upon the outermost of said leaves, and a resilient hook integral with the end of the front plate engaging the sleeve.

4. In a device of the type specified, a keeper comprising a front plate, lateral walls provided with pairs of opposed perforations, and a resilient hook upon one end of the plate, a nail catch upon the hook, an adjusting member in the keeper engagable at one end with the walls in one of the pairs of the opposed perforations, an attaching sleeve upon the other end of the adjusting member, an extension member comprising a plurality of hingedly connected leaves superposed upon the plate and adjusting member between the walls, the innermost of said leaves being pivotally attached to the walls, and an attaching sleeve upon the outermost of said leaves normally engaged and overlapped by the hook.

In testimony whereof I have affixed my signature.

FERDINAND ARMBRUST.